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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/670,699	09/24/2003	James Christopher Matabayas JR.	42P17196	6182

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EXAMINER
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EASHOO, MARK

ART UNIT	PAPER NUMBER
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1732

DATE MAILED: 12/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/670,699

Applicant(s)

MATABAYAS, JAMES  
CHRISTOPHER

Examiner

Mark Eashoo, Ph.D.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 3-4, 15-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 5-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5/05.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

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## DETAILED ACTION

### *Election/Restrictions*

Applicant's election of claims 1-2, and 5-14 in the reply filed on 15-SEP-2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claims 3, 4, and 15-36 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected claim grouping, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 15-SEP-2005.

### *Information Disclosure Statement*

The information disclosure statement filed 27-MAY-2005 complies with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609. Accordingly, it has been placed in the application file and the information referred to therein has been considered as to the merits.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, and 5-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Glatkowshi et al. (US Pat. 6,265,466).

Regarding claims 1, 2, 6, and 7: Glatkowshi et al. teaches the claimed process, comprising: combining at least carbon nanotubes, additives/alignment material, and an olefin polymer, namely, polyethylene or polypropylene (abstract, 3:5-25, and 3:40-65); and aligning the nanotubes and another/alignment material by shear forces (abstract, 4:25-65).

Regarding claim 5: Glatkowshi et al. also teaches nanotubes in the range of 0.001 to 15 weight percent (3:66-4:5).

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glatkowschi et al. (US Pat. 6,265,466) in view of Bandyopadhyay et al. (US 2004/0016912 A1).

Glatkowschi et al. teaches the basic claimed process, comprising: combining at least carbon nanotubes , additives/alignment material, and an olefin polymer, namely, polyethylene or polypropylene (abstract, 3:5-25, and 3:40-65); and aligning the nanotubes and another/alignment material by shear forces (abstract, 4:25-65).

Regarding claims 8-9: Glatkowschi et al. does not teach a conductive filler. However, Bandyopadhyay et al. teaches a conductive filler of aluminum, copper, or silver (§ 13). Glatkowschi et al. and Bandyopadhyay et al. are combinable because they are form the same field of endeavor, namely, forming composites for electromagnetic shielding. At the time of invention a person of ordinary skill in the art would have found it obvious to have used a conductive filler of aluminum, copper, or silver, as taught by Bandyopadhyay et al., in the process of Glatkowschi et al., and would have been motivated to do so because Bandyopadhyay et al. suggests that various mixtures of conductive fillers may be used in a composite material used for electromagnetic shielding.

Regarding claim 10: Glatkowschi et al. does not teach a clay filler. However, Bandyopadhyay et al. teaches a clay filler (§ 32-33). At the time of invention a person of ordinary skill in the art would have found it obvious to have used a clay filler, as taught by Bandyopadhyay et al., in the process of Glatkowschi et al., and would have been motivated to do so because Bandyopadhyay et al. suggests that various mixtures of conductive and non-conductive fillers may be used in a composite material used for electromagnetic shielding.

Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glatkowschi et al. (US Pat. 6,265,466) in view of Bandyopadhyay et al. (US 2004/0016912 A1) as applied to claims 8-10 above, and further in view of Lan et al. (US Pat. 6,387,996).

Glatkowschi et al. teaches the basic claimed process as set forth above.

Regarding claims 11, 13, and 14: Glatkowschi et al. does not teach clay formed in a particular manner or of specific dimensions. Nonetheless, Lan et al. teaches a clay material prepared by dispersing the clay in water of about 50-80°C , adding a cation salt to the clay water mixture and blending, isolating the clay and reducing the clay to a average/mean size of less than about 100 microns (9:20-60). Lan et al. further teaches that the such clay particles have a cation exchange capacity of 0.5 to 2.0 meq/g and are less than 2 nm thick and have a diameter of about 10-3,000 nm (7:40-8:15). At the time of invention a person of ordinary skill in the art would have found it obvious to have used a clay material, as taught by Lan et al., in the process of Glatkowschi et al., and would have been motivated to do so because Lan et al. suggests such processed clay are able to be finely dispersed in the composite matrix.

Regarding claim 12: Glatkowschi et al. does not teach specific clay, polymer/matrix, and nanotube amounts in a composite. However, Bandyopadhyay et al. teaches a composite of 1-60% clay (§ 32), 10-99.5% polymer/matrix (claim 5), and 0.25-60% nanotubes (§ 19). At the time of invention a person of ordinary skill in the art would have found it obvious to have used 1-60% clay, 10-99.5% polymer/matrix , and 0.25-60% nanotubes, as taught by Bandyopadhyay et al., in the process of Glatkowschi et al., and would have been motivated to do so because Bandyopadhyay et al. suggests

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that such mixture of conductive, non-conductive fillers, and polymer may be used in a composite material used for electromagnetic shielding.

Bandyopadhyay et al. further teaches that sheet of such materials are extruded (§ 33). It is submitted that it is intrinsic that the extrudate must be cut/divided to be used as intended. Glatkowschi et al. and Bandyopadhyay et al. would have been combined for substantially the same reasons as set forth above.

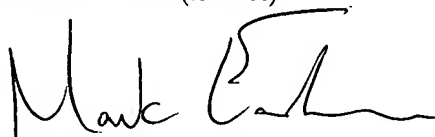
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See attached PTO-892.

*Correspondence*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Eashoo, Ph.D. whose telephone number is (571) 272-1197. The examiner can normally be reached on 7am-3pm EST, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Mark Eashoo, Ph.D.  
Primary Examiner  
Art Unit 1732

3 December 2005  
me

53/Dec/05